# WESTON REGION 5 START EMERGENCY RESPONSE SITE HEALTH AND SAFETY PLAN

This Health & Safety Plan is strictly for Emergency Response (non-CBRN ERs), if site activities turn into a longer Site Investigation/Assessment or Removal, WESTON's standard Health & Safety Plan needs to be generated and approved. This Health & Safety Plan is valid for 72 hours unless site conditions change. Contact the START Safety Officer to update or revise the plan.

### SITE INFORMATION

Prepared by:	TDD:	WO:	Date Prepared:	
Lorie Hong	S-05-0001-1108-032	20405.012.001.1585.00	8/26/11	
ER Initial Call (Date/ Time):	ER Date:	OSC R1 (Name/ Number):	OSC R2 (Name/ Number):	
8/26/11 10:15		Jeff Lippert/734-692-7682		
Site Name and Contact:	•	START R1 (Name/ Number):	START R2 (Name/ Number):	
Fleetwood Heating and Cooling	(based on NRC report)	Rick Mehl/847-254-6981	Mike Mejac/847-918-4002	
Site Address: 101 Cemetary Street, Bangor, MI		START PM (Name/ Number):	START FSO (Name/ Number):	
		Lorie Hong/248-798-4089	Rick Mehl/847-254-6981	
Site History: A 10,000 Sq. Foot b	uilding that was used	Current Site Information: Facility caught on fire on the morning of 8/26/11. Fire Department is on-scene. MDEQ and EPA are on route.		
to store air conditioning units, a	uction items, all terrain			
vehicles, chemicals and paints.	Was formerly a plating			
shop.				
			•	
		]		

Scope of Work: US EPA requested START assistance in providing air monitoring with instruments such as multiRAE's, areaRAE's, toxiRAE's, and pDR's. Provide written and photographic documentation and technical support. Sampling could be requested (air, water, or soil).

### 2. REVIEW AND APPROVAL

	Name	Signature	Date
Reviewed and Approved by: SO/DSM/CHS	Tonya Balla	Compa Virtue	8/26/11
Reviewed by: FSO/ Site Manager	Rick Mehl	Kuh ghul	8/24/n
Post Response Review by:		·	
Post Response Approval by:			

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# 3. RESPONSE TASKS/ DURATION

Duration		Tasks	Duration
(Hours/Days)	1		(Hours/Days)
2 Days	Ø	Site Entry	2 Days
2 Days	Ø	Air Monitoring	2 Days
	M	Decontamination	2 Days
		Data Management	
	1		
	(Hours/Days) 2 Days	(Hours/Days)  2 Days  Days	(Hours/Days)  2 Days Site Entry  2 Days Air Monitoring  Decontamination

4.	PHYSICAL HAZARDS TO PERSONNEL
$\boxtimes$	Buddy System - The buddy or line of sight system is mandatory for all site personnel.
	Heat Stress - The FSO shall generally be guided by the Weston OP in determining work/rest periods.
	Fluids shall be available at all times and encouraged during rest periods.
$\boxtimes$	Cold Stress - The FSO shall generally be guided by the Weston OP in determining work/rest periods.
	Workers shall be provided with adequate warm clothing, rest opportunities and exposure protection.
	Warm and/or sweet fluids shall also be provided during rest periods.
$\boxtimes$	Precipitation - Personnel should be aware of the increased risk of slips and falls on wet surfaces as well as
	exposure effects caused by wet clothing. Personnel should dress appropriately.
$\boxtimes$	Lighting - Fixed or portable lighting shall be maintained for dark areas or work after sunset to ensure that
	sufficient illumination is provided.
	Work Near Water - All personnel working in boats, on docks or within 10 feet of water deeper than 3 feet
	shall wear approved personal flotation devices (PFDs) or work vests and wading boots as appropriate.
	High Noise Levels - Hearing protection shall be used in high noise areas (exceeding 85 dBA - generally
	where noise levels require personnel to raise their voices to be heard) as designated by the FSO.
	Electrical Hazards - Electrical hazards should be identified on the site work zone map and marked out as
	appropriate. All electrical equipment should be used with a ground fault circuit interrupter (GFCI).
$\boxtimes$	Trip Hazards - Open manholes, pits, trenches or similar hazards should be noted on the site map and
	should be marked off on site as appropriate.
$\boxtimes$	Carbon Monoxide - Equipment operators shall ensure that personnel do not linger or work near exhaust
	pipes.
$\boxtimes$	UV Light Exposure - Personnel should dress so as to cover as much exposed skin as possible. Personnel
	should use a sunscreen with a protection factor (PF) of 15 or greater and should wear tinted safety
	glasses.
	Helicopter/Airplane Operations - Pilots shall provide safety briefings for all passengers.

$\boxtimes$	Motor Vehicles - Drivers shall maintain a safe speed at all times and shall not be allowed to operate
	vehicles in a reckless manner. Seat belts will be worn. In backing situations where the rear of the vehicle
	cannot be clearly seen, one person shall act as a ground guide to assist the driver. In situations where
	ground clearance and soil conditions are not known, one person shall dismount and act as a guide. (Also
	See Next Page)
$\boxtimes$	Terrain (Slips, Trips and Falls) - All personnel will exercise due caution when walking through areas of
	uneven terrain and undergrowth to ensure proper footing.
	lonizing Radiation - Any encounter with ionizing radiation requires Health Physics support. All START
	responders must wear personal dosimetry which should consist of a TLD and/or Self-Reading Dosimeter
	Non-Ionizing Radiation - To the extent possible personnel should maintain a minimum distance of 30 feet
	from devices emitting radio or microwaves.
	Underground/Overhead Utilities - All underground utilities must be marked out prior to conducting
	intrusive activities. At least 15 feet of distance must be maintained with overhead utilities.
	Confined Spaces - Confined spaces will not be normally entered by response personnel. If a confined
	space is to be entered, a specific confined space entry work permit will be developed for that operation.
$\boxtimes$	Drum Handling - Drums must be handled in accordance with 29 CFR 1910.120. Containers must be
	labeled and constructed in accordance with EPA (40 CFR 264-265, and 300), and DOT (49 CFR 171-178)
	regulations. Temporary holding/staging areas for drums and other containers shall be constructed to
	contain spillage, runoff or accidental release of materials. Manual lifting and handling of drums shall be
	kept to a minimum. To the extent possible, mechanical devices, drum slings or other mechanical assist
	devices designed for that purpose should be used.
	SEE WESTON FIELD OPERATING PROCEDURES (OPs) FOR ADDITIONAL GUIDANCE
	Vehicle Use Assessment and Selection
Dri	toing is one of the most hazardous and frequent activities for WESTON Employees. The most appropriate type
veh	ticle(s) authorized for use on this project is/are:
1.	START Truck
2.	Personal Vehicle/Rental
The	following Project Team Member's qualifications and experience in driving these types of vehicles was evaluated
and	found to be acceptable (indicate vehicle type(s) number next to employee name). Team Member's driving the
STA	ART box truck need to have a road test and DOT physical clearance every 2 years.
1.	Rick Mehl - All
2	Mike Mejac - All
3.	
4	
The	project site was evaluated and a Traffic Control Plan 🔲 is required 🔀 is not required.
Ifr	required, the Traffic Control Plan can be found in Attachment A.

5. 	BIOLOGICAL HAZARDS TO PERSONNEL
$\boxtimes$	Insect Stings - Hornet, wasp or bee stings, mosquito. Personnel should avoid the nesting areas of these
	insects. Personnel who are allergic to these insects should carry bee sting kits. Personnel may find
	repellants containing DEET effective in keeping these insects away.
$\boxtimes$	Poisonous Spiders - Black widow or brown recluse. Wear gloves when working in areas where these
	spiders may be present. If bitten, seek medical attention immediately.
$\boxtimes$	Ticks - Personnel should wear Tyvek when working in wooded areas as a precaution. Barring this,
	personnel should wear light colored clothing and tuck pants into socks. Personnel should also wear a
	repellant containing DEET. Personnel should use the buddy system and perform a tick check after
	exiting wooded areas. Suspected bites should be reported immediately.
$\boxtimes$	Animal Bites - Personnel should use extreme caution when in contact with strange animals. If bitten, seek
	medical attention immediately.
	Snake Bites - Personnel should use extreme caution when working in areas known to be inhabited by
	snakes. Snake leggings or chaps should be worn as a precaution. If bitten, seek medical attention
	immediately.
	Poisonous Plants - Personnel should use caution when working in wooded areas. Tyvek suits may be
	worn as a precaution. All personnel should wear Ivy Block.
6.	TRAINING REQUIREMENTS
x	40-Hour HAZWOPER Training.
X	8-Hour Annual Refresher Training w/ Blood borne Pathogen Training.
x	CPR and First Aid Training.
1	Site Health and Safety Supervisor Training (minimum one person on-site).
	24-Hour Course for limited, specific tasks with 8-hour supervised OJT.
	24-Hour Course for Level "D" site with 8-hour supervised OJT.
	10-Hour Construction Safety Training
	Confined Space Training
	Competent Person Fall Prevention and Protection Training
	Competent Person Trenching and Excavation Training
П	Dangerous Goods Shipping
	Site-Specific Training, Specify:
	Site-Specific Training, Specify:  Pre-entry training for emergency response skilled support personnel.

#### 7. MEDICAL SURVEILLANCE REQUIREMENTS X Baseline physical examination with physician certification. Annual physical examination with physician certification. X X Two-Year DOT physical examination with physician certification (DOT card). **Annual Fit Test** X Site-specific medical monitoring protocol, Specify: Asbestos worker protocol. Exempt from Medical Surveillance, Specify Reason: П Examination required in the event of chemical trauma or exposure. CHEMICAL HAZARDS TO PERSONNEL The following chemicals are known or suspected to be at this site: **Chemical Contaminates of Concern** Hazardous Material brought on-site by Contractors Chemical Name Concentration Chemical Name Quantity Metals Unknown Alconox 1 quart Nitric Acid Fuel (gasoline) 5 gallons Unknown Cyanide Unknown MultiRae (Combo Cal. Gas) (34 Liters) X Corrosives Unknown Hydrogen Sulfide 25 ppm Methane 50% LEL Flammables Unknown Carbon Monoxide 50 ppm 図 Isobutylene (Cal. Gas) 100 ppm (17 liters) Chromium Unknown Ø Hydrogen Cyanide (Cal. Gas) 10 ppm, (58 liters) Methane (Cal. Gas) 100 ppm (17 liters). Hydrogen (for FID) 2 kg Web Links 1. NIOSH Pocket Guide (Electronic Version) - http://www.adc.gov/mesh/npg/mpgnana-a/html Vermont SIRI MSDS Collection - http://hazard.com/msds/ J.T. Baker/Mallinkrodt MSDS Collection - http://www.malibaker.com 3. NIOSH Chemical Safety Cards - http://www.adc.gov/niosh/lipesnepg/nengt/900.html North American Emergency Response Guide (Material Search) - http://ihazmat.doi.gov/pubs/erg/resport.htm 5. North American Emergency Response Guide (ID Number Search) - http://buzmai.doi.gov/pubs/eng/umdam.idm North American Emergency Response Guide (Isolation Distances) - http://thazmal.doi.gov/pubs/crg/greeneys.hom

### Additional Links

- 1. U.S. Environmental Protection Agency http://opa.gov
- 2. U.S. Environmental Protection Agency OSC Home Page http://www.wichasscion
- 3. OSHA http://www.osha.gov
- 4. National Atmospheric Release Advisory Center (NARAC) http://narac.ibh.gov-

Attach information obtained from any of the above references immediately after this page.

### 9. SITE SAFETY BRIEFINGS/MEETINGS

- All personnel shall be provided with an initial and daily site safety briefing to communicate the nature, level and degree of hazards expected on site.
- All personnel will also receive briefings when significant changes in site conditions occur and the Health and Safety Plan will be revised accordingly.

#### 10. EMERGENCY PROCEDURES

- In all cases when an on-site emergency occurs, personnel shall not reenter the area or restart work until:
  - ✓ The condition resulting in the emergency has been investigated and has been corrected;
  - ✓ Hazards have been reassessed; and
  - Personnel have been briefed on any changes in either site operations or the site health and safety plan.
- Emergency Medical Procedures
  - ✓ Contact designated EMT; and
  - ✓ Do not attempt to move seriously injured personnel.
- Emergency Fire Procedures
  - ✓ Do not attempt to fight fires other than small fires in the early stages of development;
  - ✓ Do not take extraordinary measures to fight fires; and
  - ✓ Evacuate to a safe distance and call the fire department.
- Evacuation routes and assembly point(s) should be established locally, and all personnel should be informed of assembly point location during safety briefings.

### 11. COMMUNICATIONS

- General signals during respirator usage:
  - THUMBS UP I'm OK/I Agree
  - > THUMBS DOWN I Don't Agree
  - ➤ HANDS ACROSS THROAT Out of Air/Trouble Breathing
  - GRAB HAND/ARM Come with Me
  - > HANDS ON HEAD I Need Assistance
- Radio Communications
  - ➤ Working Channel 1
  - Emergency Channel 2
- Mobile Telephone(s) (See page 1 and 7)

#### Web Links

- -1. Hospital Locator http://www.hospitaldirectory.com
- 2. White Pages http://whitepages.com
- 3. Yellow Pages http://yellowpages.com
- 4. Yahoo Maps- http://maps.yahoo.com
- 15. Google Maps- http://google.com/maps

Emergency Contact	Location	Telephone Number	Notified
Hospital (Primary)	Bronson Lakeview Hospital  408 Hazen St, Paw Paw, MI	269-657-1500	Yes
Hospital (Secondary)			No
Ambulance		911	No
Police		911	No
Fire Department		911	No

Does primary hospital have chemical trauma capability? Yes

If no, then where is the closest backup? Enter Back-up Hospital Name Here

Enter Telephone Number Here

# ADDITIONAL EMERGENCY TELEPHONE CONTACTS

Contact	Telephone/Pager Number	Contact	Telephone/Pager Number	
R1 OSC Cell Phone	Jeff Lippert/7340692-7682	R2 OSC Cell Phone		
START R1 Cell Phone	Rick Mehl/847-254-6981	START R2 Cell Phone	Mike Mejac/847-918-4002	
START FSO Cell Phone	Rick Mehl/847-254-6981	START Project Manager	Lorie Hong/248-798-4089	
START Program Manager- Pamela Bayles			(517) 381-5920 (O), (313) 218-2659 (C)	
START Manager- Rick Mehl	(312) 424-3312 (O), (847) 254-6981 (C)	START Manager- Frank Beodray	(440) 239-1978 x104 (O), (440) 336-6360 (C)	
START SO- Tonya Balla	(847) 918-4094 (O), (847) 528-2623 (C)	Weston DSM-Ted Deecke	(847) 337-4147 (C)	
Weston Med. Consultant- Workcare - Dr. Peter Greaney	call 800-455-6155	Work Care 24-hour Physician	Afterhours (800) 455-6155 push 3	
CHEMTREC (Emergency)	(800) 424-9300	CHEMTREC (Non-Emergency)	(800) 262-8200	
ATSDR- Dr. Mark Johnson	(312) 353-3436 (O), (312) 307-7415 (C)	EPA Regional Response Center	(312) 353-2318	
National Response Center	(800) 424-8802	Utility Markout Services		
National Poison Control	(800) 942-5969	Weston Warehouse- Ralph Milewski	(847) 265-5089 (O), (847) 417-7273 (C)	

12.	DECONTAMINATION P	DECONTAMINATION PROCEDURES			
<u></u>	Y47 TO	D			
Ш	Wet Decontamination	Decontamination Method (s):			
$\boxtimes$	Dry Decontamination	Decontamination Method(s): <u>Dispose of contaminated PPE with IDW on</u>			
<u>site.</u>	Decon equipment with Ale	conox solution.			
	All investigative derived waste (IDW) generated will be placed in appropriate containers, labeled and				
stored	l on site for eventual disposal				
	Refer to Attachment A for a	additional Decontamination Procedures.			
Descr	iption of site specific deconta	mination plan:			
Adeq	uacy of Decontamination dete	ermined by: Click Here for Options			

### PHYSICAL DESCRIPTION OF SITE

13.

Enter the following information if known or complete when known:

1.	Size of site:	_acres/ square feet		
2.	Distance to nearest residence: _		feet/ miles	
3.	Nearest waterway:	Name		_feet/miles
4.	Nearest school:	Name		feet/miles
5.	Nearest hospital:	Name		feet/miles
6.	Nearest public building:	Name		feet/miles
		VAT T T T T		

### Web Links

- 1. MSA Response Respirator Selector <a href="http://msanet.com/response/chemicalsearch.asp">http://msanet.com/response/chemicalsearch.asp</a>
- 2. MSA Cartridge Life Expectancy Calculator http://webapos.msanet.com/cartlife/
- 3. Scott Respirator Selection http://www.scotthealthsafety.com/airpur.htm
- 4. Kappler Suit Smart PPE Selector http://www.kappler.com/techdala\_main.html
- 5. SKC air sampling (for the proper sampling methods and the mediums) http://www.SKC.mc.com
- Wireless Information System for Emergency Responders (WISER) http://webwiser.nlm.nih.gov/getHomeData.do
- 7. DuPont<sup>TM</sup> SafeSPEC<sup>TM</sup> http://www2.dupont.com/NOWApp/DPPRequesiGaleway/

### Action Levels

These Action Levels, if not defined by regulation, are some percent (usually 50%) of the applicable PEL/TLV/REL. That number must also be adjusted to account for instrument response factors.

	Tasks	Actio	on Level	Action
Explosive atmosphere	All	Ambient Air Concentration	Confined Space Concentration	
		<10% LEL	0 to 1% LEL	Work may continue.  Consider toxicity potential.
		10 to 25% LEL	1 to 10% LEL	Work may continue. Increas monitoring frequency.
e de		>25% LEL	>10% LEL	Work must stop. Ventilate area before returning.
Oxygen	Ali	Ambient Air Concentration	Confined Space Concentration	
		<19.5% O <sub>2</sub>	<19.5% O <sub>2</sub>	Leave area. Re-enter only with self-contained breathing apparatus.
		19.5% to 25% O <sub>2</sub>	19.5% to 23.5% O <sub>2</sub>	Work may continue. Investigate changes from 21%.
•		>25% O₂	>23.5% O <sub>2</sub>	Work must stop. Ventilate area before returning.
Radiation	Initial Recon	< 3 times background 3 times background to < 1 mR/hour  > 1 mrem/hour		Continue work.
				Radiation above background levels (normally 0.01-0.02 mR/hr) signifies possible radiation source(s) present. Continue investigation with caution. Perform thorough monitoring. Consult with a Health Physicist.
				Potential radiation hazard. Evacuate site. Continue investigation only upon the advice of Health Physicist.
Organic gases and vapors	All	0.5 ppm		If PID indicates 0.5 ppm, upgrade to level C PPE with GME P100 cartridges.
☑ Inorganic gases, vapors, and particulates	All	2.5 mg/m3 indicated	·	

# 15. PERSONAL PROTECTIVE EQUIPMENT

# Task #1

# Perimeter Recon

[	Level of	Type of Suit/Coverall	Inner Glove	Outer Glove(s)	Boot Cover	Type of APR	Cartridge Service Life
	Protection					Cartridge	(minutes)
Ī	Level "D"	None Required	None Required	None Required	None Required	None Required	-

# Task # 2

# Site Recon/Documentation

Level of	Type of Suit/Coverall	Inner Glove	Outer Glove(s)	Boot Cover	Type of APR	Cartridge Service Life
Protection					Cartridge	(minutes)
Level "D+"	None Required	None Required	None Required	Latex Bootles	None Required	

# Task #3

# Air Monitoring

-	Level of	Type of Suit/Coverall	Inner Glove	Outer Glove(s)	Boot Cover	Type of APR	Cartridge Service Life
	Protection					Cartridge	(minutes)
ĺ	Level "D+"	None Required	None Required	None Required	Latex Bootles	None Required	

# Task #4

# Air Monitoring/Sampling

				_		
Level of	Type of Suit/Coverall	Inner Glove	Outer Glove(s)	Boot Cover	Type of APR	Cartridge Service Life
Protection					Cartridge	(minutes)
Level "C"	Coated Tyvek	Nitrile Surgical	Nitrile	Latex Bootles	GME-P100	Indicated with use strip on cartridge or cartridge label or when
	•					there is breakthrough.

# Task # 5

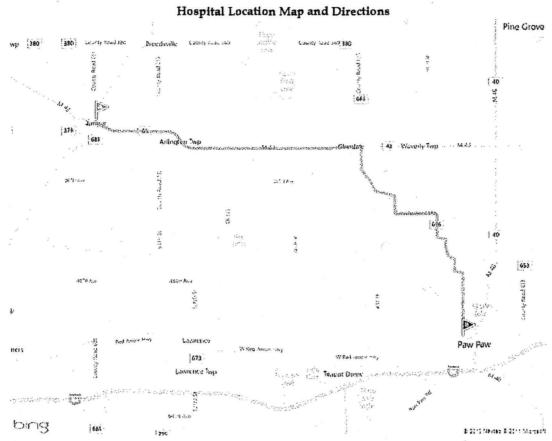
# Click Here for Options

Level of	Type of Suit/Coverall	Inner Glove	Outer Glove(s)	Boot Cover	Type of APR	Cartridge Service Life
Protection					Cartridge	(minutes)
Click Here	Click Here	Click Here	Click Here	Click Here	Click Here	
Click Here	Click Here	Click Here	Click Here	Click Here	. Click Here	

# Site Map and Directions



- 1. Yahoo Maps- http://maps.yahoo.com;
- 2. Google Maps- http://google.com/maps; or
- 3. DeLorme Street Atlas (if not online)

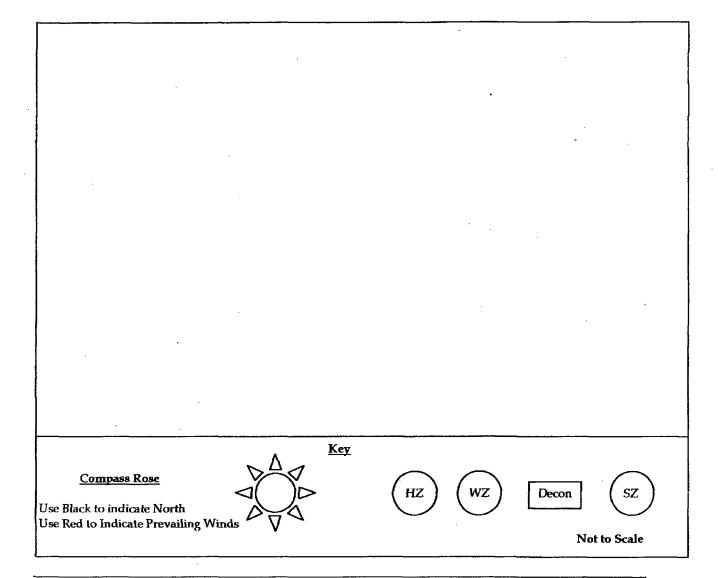


- 1. Depart Cemetery Rd toward N Center St / CR-681 56 ft
- 2. Turn left onto N Center St / CR-681 0.2 mi
- 3. Turn left onto M-43 / E Monroe St 8.0 mi
- 4. Turn right onto County Road 665 / CR-665 (Marathon on the corner ) 8.0 mi
- 5. Arrive at 408 Hazen St, Paw Paw, MI on the left. The last intersection is W North St. If you reach W Willard St, you've gone too far
- 1. Yahoo Maps- http://maps.yahoo.com;
- 2. Google Maps- http://google.com/maps; or
- 3. DeLorme Street Atlas (if not online)

# 16. SITE CONTROL MEASURES

- 1. No person should enter the site without subscribing to this or another appropriate Health and Safety Plan.
- 2. The buddy or line of sight system is mandatory for all site personnel.

Site	Map	with	Work	Zones



# 17. HAZARDOUS WASTE SITE AND ENVIRONMENTAL SAMPLING ACTIVITIES Were Samples Obtained Off Site? Yes No On Site? Yes No Type(s) of Samples: Air SW GW Drum/Tank Soil Sediment Asbestos Wipe Other:

How obtained: Poly Scoop Drum Thief/Coliwasa SS Trowel Split Spoon Auger Bailer Dredge

Bottle Immersion Pump Low-Flow Pump Other:

Was Lab notified of Potential Hazard Level of Samples? Yes No

# 

Station Location	Multi-RAE	Micro FID	Radiation Meter	DataRAM or PDR	Lumex MVA	Other	Other
Background							
Readings	% LEL	ppm	uR/hr	μg/m³	ng/m³		
	% O2	}	mR/hr	ு எ		į	
	ррт СО	ļ	СРМ	mg/m³			
•	ppm H <sub>2</sub> S				1		
	ppm VOC						
	% LEL			µg/m³			
i	%O2	ppm	µR/hr	or	ng/m³	1	
	ррт СО		mR/hr	mg/m³			,
	ppm H <sub>2</sub> S		СРМ				
	ppm VOC						
	%LEL	ppm	µR/hr	µg/m³	ng/m³		
	%O2		mR/hr	or	ļ		
	ppm CO		СРМ	mg/m³	<b>i</b> i		
	ppm H2S				<b>!</b>	İ	
	ppm VOC						
							-
	%LEL	ppm	μR/1 <del>u</del> r	μg/m³	ng/m³		
	%O2		m.R/hr	or			
	ppm CO		CPM	mg/m³	1		
	ppm H <sub>2</sub> S		<u> </u>	]	] ]	j	
	ppm VOC						
	% LEL	ppm	µR/hr	µg/m³	ng/m³		
	%O2		m.R/tur	or	ĺ		
	ppm CO		СРМ	mg/m³			
	ppm H <sub>2</sub> S			-			
·	ppm VOC	j 			1		
	· · · · · · · · · · · · · · · · · · ·						•
	%LFL	ррт	µR/hr	μg/m³	ng/m³	ļ	
	%O2	} ``	mR/tu	or			
ļ	ppm CO		СРМ	mg/m³			
	ppm H <sub>2</sub> S						
	ppm VOC		ł			1	

Instrument, Mfg., Model, Equip. ID No.	Date	Time	Calib. Material	Calib. Method Mfg.'s	Other	Initial Setting and Reading	Final Setting and Reading	Calibrator's Initials
							,,,,	
				·				

Name (Printed)	Signature	Affiliation	Date
Rick Mell	the Mill	Wahn	8/29/
My Day	Me Du	weston	8/26/
Jeff Export	The my	Weston	2/26/11

Disclaimer: This Health and Safety Plan (HASP) was prepared for work under the Superfund Technical Assessment and Response Team (START) Contract EP-S5-06-04. Use of this HASP by WESTON and its subcontractors is intended to fulfill the OSHA requirements found in 29 CFR 1910.120. Items not specifically covered in this HASP are included by reference to 29 CFR 1910 and 1926.

	Comments/Follow	Up		
			,	·

# Attachment A DECONTAMINATION PLAN

(If applicable, include additional decontamination procedures, e.g. Section 5 from Weston Corporate HASP)

TMA Soft and So	our M	ATERIAL	SAFETY!	DATA SH	EET		PAGE 1
	SEG	TION 1 - PR	ODUCT SO	URCE AND	IDENTIT	ſΥ	
Supplier ident	lity and address		Product de	scription:	[	Date: Apr. 3,	2006
Technical Marketi	ng Alliance		Name:	TMA Soft &	Sour		
2335 Buttermilk C	crossing		Purpose: I	Veutralizes	caustic a	nd softens fab	orics.
Crescent Springs,	KY 41017		Proprietary	Formula	Code	TM10853	
Emergency phone:		300	Product inf	ormation:	859-727	-7854	
	SEC	TION 2 - SHI	PPING CLA	SSIFICATI	NC		
Proper Shipping Na	ame, Hazard Clas	s, UN/NA Nu	mber Packing	Group, Eme	ergency R	esponse Guide	Number
	cleaning liquid,						
Labels required pe	r 49 CFR 172.1	01:		Corrosive			
Size for "Limited qu			)-4:	1 gal max i	n 66# ma	IX.	
Reportable Quantit	y ("RQ") per 49	CFR172.10	1: None	or not pos	sible in or	ne non-bulk pa	ackage
SECTI	ON 3- SAFETY	RATINGS A	ND HAZAR			TINFORMAT	ION
Reporting required	by Title III Sec	313, 40 CFR	₹ 372, 29 CF	R 1910.120	0	Exposure Lim	
CAS# 3	313 Mate	erial or Comp	onent	% .	RQ#	TWA	STEL
7664-38-2 Y	es Phos	phoric Acid		< 20	5000	1 mg/m3	3 mg/m3
No component is list	ed in "THRESHO	AV TIMIT O	LUES AND B	IOI OGICAL	EXPOSU	RE INDICES F	OR 2006" fro
ACGIH except as no		•					
		DOLIGING HOLOU					
Note: The purpose of	of this MSDS is to	provide safe	handling, ship	oping and dis	posal info	rmation for use	ers of the
Note: The purpose of product. It is not inte	of this MSDS is to inded to, nor does	provide safe s it, provide co	handling, ship omplete or ex	oping and dis tensive toxico	posal info ological da	rmation for use ata on the produ	ers of the uct or its
Note: The purpose of product. It is not inte components. Users	of this MSDS is to inded to, nor does who require this i	provide safe s it, provide con nformation are	handling, ship omplete or ex e referred to p	oping and dis tensive toxico orimary supp	posal info ological da	rmation for use ata on the produ	ers of the uct or its
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					5 - SAFE HANDLING AND STORAGE				
General					skin and out of eyes. Wipe up spills at once.				
			Keep lid	no t	containers when not in use. Do not store in metal container.				
			·						
Protective									
Eyes					nould be wom if there is possibility of eye contact.				
Skin					s rubber, PVC or neoprene are recommended.				
Respirator	y prote	ection			normally required. If risk of inhalation occurs, select and				
V and lading					ng to OSHA/NIOSH guidelines for nuisance mists.				
Ventilation A well ventilated work environment is recommended.  Other None									
Other	NODE	<b>2</b>	oer	710	NIA DIENERIA NEETONA E				
					ON 6- HEALTH SAFETY DATA				
	acute (		onic over expo						
Eyes					hronic effects known.				
Skin					om repeated exposure.				
Inhalation					to breathing passages.				
Ingestion		NUL	i likely source	UIC	mronic exposure.				
	S	ECTI	ANT PHYSI	CAT	STABILITY AND REACTIVITY DATA				
Evn	losive			75-1-	Flash point: See Sec 4				
Upper No		Lowe	er None		Conditions to avoid: Do not store in metal containers.				
Chemical	110	Stab		—	Hazardous decomposition products:				
stability		State	ie		None known				
Hazardou	l				Incompatibility: Will dissolve most metals.				
polymer			Cannot occu	<u>-</u>	Theoretain, will dissolve most metals.				
					MERGENCY RESPONSE PROCEDURES				
Fire	Extin	auishi	ng media	<u> </u>	Use equipment appropriate to the main cause of the fire.				
			ocedures		None				
	Opco	iui pro	<del>loculies</del>		] Notice				
i	Unus	ual ha	azards		Acid fumes may be formed in a fire.				
First Aid	Eyes			ater	for at least 15 min. Seek medical attention. See Sec. 6.				
	Skin				kin with soap and water until gone. Remove affected				
1.					product and wash clothes before reuse.				
William Constitution	Inhala	ation			remove individual to fresh air, get medical attention at				
	74.				e is any discomfort.				
	Inges	tion	Dilute	y gi	iving large amounts of milk or water. Get medical				
					mmediately. Do not induce vomiting.				
Spills	Small	/ larg			il amounts may be flushed to drain: Comply with federal,				
					and local regulations on reporting spills.				
	17 17% 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		· *	(eep	o out of waterways and storm sewers.				
		٠	.5°=-						
			<del></del>						
					of corrosivity, like " Unlisted Hazardous Waste D002", RQ 100#.				
information	presen	ited he	rein has been d	amox	piled from sources considered to be accurate and reliable, but is not				

Product as made has the characteristic of corrosivity, like "Unlisted Hazardous Waste D002", RQ 100#.

Information presented herein has been compiled from sources considered to be accurate and reliable, but is not guaranteed to be so. Since conditions of use are beyond our control we make no warranties, expressed or implied.

MSDS prepared by: R.N. Miller 1-800-342-3577

Liquid Laundry Rust Removing Sour	PAGE 1					
	SAFETY DATA SHEET					
SECTION 1. PRODUCT SOURCE AND IDENTITY						
Supplier identity and address	Product description: Date: Nov. 7, 2008					
Technical Marketing Alliance	Name: Liquid Laundry Rust Removing Sour					
2335 Buttermilk Crossing	Purpose: Rewetting rust removing sour					
Crescent Springs, KY 41017	Proprietary Formula Code: TM10854					
Emergency phone: 800-424-9300	Product information: 859-727-7854					
SECTION 2 - SH	IPPING CLASSIFICATION					
Proper Shipping Name, Hazard Class, UN/NA N	umber Packing Group, Emergency Response Guide Number					
Corrosive liquid, acidic, organ	nic, n.o.s., 8, UN3265, PG III (Citric acid)					
	ERG 153					
Labels required per 49 CFR 172.101:	Corrosive					
Size for "Limited quantity" per 49 CFR 173.150						
Reportable Quantity ("RQ") per 49 CFR172.10						
CARNETS TO THE WASHINGTON AND PROPERTY OF THE	ND HAZARDOUS INGREDIENT INFORMATION					
Reporting required by Title III Sec 313, 40CFR	372_200 R 1910 1200 Exposure Limit Valdes					
CAS# 313 Material or Com						
77-92-9 No Citric acid, anhyo	1. 1. 1. V.					
Product also contains non regulated dete	rgents which may contribute to eye and skin irritation.					
N	ALLIES AND DIOLOGICAL EXPOSURE INDIOES FOR SOCIET					
l la companya di managantan di managantan di managantan di managantan di managantan di managantan di managanta	ALUES AND BIOLOGICAL EXPOSURE INDICES FOR 2008" from					
	d in TITLE III SEC 313 (EPCRA) are indicated by "Yes" above. handling, shipping and disposal information for users of the					
	complete or extensive toxicological data on the product or its					
•	re referred to primary suppliers of the ingredients of interest.					
Emergency overview: Concentrated organic as						
• •	Vash off of skin immediately to avoid severe burns.					
•	good practices. Do not store in metal container,					
Hazard Categories: Health Fire	Pressure   Reactivity   Reference 49 CFR 171.8,					
Immediate Yes No	No No OSHA 29 CFR 1910.1200 and					
Delayed No XXX	<del></del>					
	nstability 0 Other B (Glasses, gloves)					
NFPA 704 Hazard Ratings: Health 2 Flamma						
	erate: 2 High: 3 Extreme: 4					
Note: HMIS and NFPA ratings are subjective e	valuations of hazards and can differ between preparers.					
They are intended and useful only as a rapid a	pproximation of the hazards rated.					
Threshold limit value: Not established on prod	uct.					
TOSCA Status: All ingredients listed	CERCLA RQ: See Sec 2.					
California Prop. 65: None	Ingredients on cancer lists: None					
Reproductive implications: None						
SECTION 41 PHYSIC	BALFAND OF EMICAL PROPERTIES					
Appearance: Teal green liquid	Flash point deg. F (cc): None					
Odor: Nil	Initial boiling point deg. C: ND					
Specific gravity: 1.1	Vapor pressure 20 deg C: ND					
pH reaction: <4	Freezing point deg. C: ND					
% phosphorous: None	Solubility in water: 100%					
VOC Content: None	ND = Not Determined					

	ŒŊ.		· F	ECTION	5 - SAFE HANDLING AND STORAGE			
General					ut of eyes. Wipe off skin at once to avoid irritation.			
Do not store in metal container. Use standard industrial good practices.								
		·	·					
Protective								
Eyes	Safety glasses or goggles should be worn if there is possibility of eye contact.							
Skin								
Respirator					e normally required. If risk of inhalation occurs, select and			
Ventilation	Т				ng to OSHA/NIOSH guidelines for nuisance mists. environment is recommended.			
Other	None		i veriua	ited work e	environment is reconfinenced.			
Oulei	NOTIC	ovationa Ovationa	Mary of the	A SE	ECHONG HEADIHSAD BYDATA			
C#to-of								
Effects of	acute t				e   hronic effects known.			
Eyes Skin					nionic enects known. in and severe irritation or skin corrosion.			
Inhalation					to breathing passages.			
Ingestion					chronic exposure.			
Ingestelle		-1-1	ilken a		Silonio Capadato.			
			SECT	ION 7 - PE	HYSICAL STABILITY AND REACTIVITY DATA 1821 2022			
Exp	osive	imits			Flash point: See Sec 4			
Upper No	ne	Lowe	r N	lone	Conditions to avoid: Do not store in metal containers.			
Chemical		Stabl	е		Hazardous decomposition products:			
stability			<u> </u>		None known			
Hazardous					Incompatibility: Will dissolve or corrode most common			
polymer	zation		Canno	t occur	metals.			
Fire			ng med		Use equipment appropriate to the main cause of the fire.			
	Spec	ial pro	cedure	s ·	None			
	<u> </u>							
-			zards	141	Acid fumes may be formed in a fire.			
First Aid	Eyes				r for at least 15 min. Seek medical attention. See Sec. 6.			
	Skin				skin with soap and water until gone. Remove affected			
	Inhal	ation			f product and wash clothes before reuse.			
	minai	auon			f, remove individual to fresh air, get medical attention at ere is any discomfort.			
	Inges	etion			giving large amounts of milk or water. Get medical			
	n ige	Jaott			immediately. Do not induce vomiting.			
Spills	Sma	ll / larc	e spill		all amounts may be flushed to drain. Comply with federal,			
	7		, <del>o op</del>	<del></del>	te and local regulations on reporting spills.			
			•		ep out of waterways and storm sewers.			
, 								
Produ	ict as n	nade h	as the c	haracteristic	tic of corrosivity, like " Unlisted Hazardous Waste D002", RQ 100#.			

Product as made has the characteristic of corrosivity, like "Unlisted Hazardous Waste D002", RQ 100#.

Information presented herein has been compiled from sources considered to be accurate and reliable, but is not guaranteed to be so. Since conditions of use are beyond our control we make no warranties, expressed or implied.

MSDS prepared by: R.N. Miller 1-800-342-3577

	MATE	RIAL SAFETY	DATA SHE	ET			
	SECTION	1 - PRODUCT SC	URCE AND	IDENTITY			
Supplier identity	and address		lescription:		Jan. 18, 2003		
	Technical Marketing Alliance			Name: Premium Heavy Duty Green Pot & Pan Detergent			
2335 Buttermilk Cros	_			ove heavy greas			
Crescent Springs, K			ry Formula	Code: TM10	8515		
Emergency phone:	NA .		nformation:	859-727-7854	57.1.		
	The second secon	2 - SHIPPING CL	<u> </u>	<u></u>			
Proper Shipping Name,	Hazard Class, UN	NA Number Packing	Group, Emer	gency Response G	uide Number		
ļ <u>. — — — — — — — — — — — — — — — — — — —</u>			Not regulat	led ,	···		
Labels required per 45		470.450.4	None		·		
Size for "Limited quan	tity" per 49 CFR	1/3.15U-4:	Not applica		facility and the second		
Reportable Quantity (							
28 Carrier 1997 (1997)	( ) 2 ( ) 5 ( ) 5 ( ) 5 ( ) 5 ( ) 5 ( ) 5 ( ) 5 ( ) 5 ( ) 5 ( ) 5 ( ) 5 ( ) 5 ( ) 5 ( ) 5 ( ) 5 ( ) 5 ( ) 5 ( )	NGS AND HAZAR	***************************************		rakisti kalibatan di Atabi i Indonesia di persambah persambah persambah di Atabi Indonesia.		
Reporting required by	· · · · · · · · · · · · · · · · · · ·	i .			re Limit Values		
CAS# 313	material or Con	iponent	<b>70</b>	RQ# TW	A STEL		
25155-30-0 No	Codium dodocul	benzene sulfonat	- 20	1000 Not	established		
25155-30-0 No	Socialii abaecyi	Delizelle sullollat	- 20	1000 NO	established		
ì				_			
1							
No component is listed in	"THRESHOLD LIM	UT VALUES AND B	OLOGICAL E	XPOSURE INDICE	S FOR 2002" from		
No component is listed in ACGIH except as noted							
ACGIH except as noted	above. Components	s listed in TITLE III S	EC 313 (EPCF	RA) are indicated b	y "Yes" above.		
<u>-</u>	above. Components uents qualifying as h	s listed in TITLE III S azardous materials,	EC 313 (EPCF substances or	RA) are indicated b waste, other than a	y "Yes" above. above, if any,		
ACGIH except as noted California criteria: Constitu	above. Components uents qualifying as h denatured to a non h	s listed in TITLE III S azzardous materials, hazardous condition.	EC 313 (EPCF substances or Regulations re	RA) are indicated be waste, other than a ferenced: California	y "Yes" above. above, if any, a Health & Safety		
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ACGIH except as noted California criteria: Constitutive been neutralized or Code Ch 6.95 Sec 25501 Emergency overview:  Hazard Categories: Immediate	above. Components uents qualifying as h denatured to a non I (k) & (l), CCR Title 2 Neutral cle Use stand Health Fi	s listed in TITLE III S nazardous materials, nazardous condition. 22, Sec 66261.212 namer and industrial good re Pressure No No	EC 313 (EPCF substances or Regulations rest, and Append practices.  Reactivity  No	RA) are indicated be waste, other than a ferenced: California X of 22 CCR Ch	y "Yes" above. above, if any, ia Health & Safety apter 11, Article 4.  CFR 171.8, 1910.1200 and		
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ACGIH except as noted California criteria: Constitution have been neutralized or Code Ch 6.95 Sec 25501 Emergency overview:  Hazard Categories: Immediate: Delayed HMIS Hazard ratings: NFPA 704 Hazard Ratings: Lea Threshold limit value: TOSCA Status: All ing California Prop. 65: Reproductive implication.	above. Components uents qualifying as h denatured to a non h (k) & (l), CCR Title 2  Neutral cle Use stands Health Fi Yes No Health 1 Fire tings: Health 1 Fi st: 0 Stight: 1 Not established of redients listed None ons: None SECTION 4 P Viscous, clear, g Floral	s listed in TITLE III S lazardous materials, hazardous condition. 22, Sec 66261.212 leaner lard industrial good re Pressure No No XXX XXX  O Instability Flammability O Moderate: 2 lon product.  CEF lingredient  HYSICAL AND C green liquid	EC 313 (EPCF substances or Regulations re 4, and Append d practices. Reactivity No XXX O Other E Reactivity High: 3 E: CLA RQ: S s on cancer  HEMICAL PF Flash point Initial boilin Vapor pres	RA) are indicated by waste, other than a eferenced: California X of 22 CCR Charles and the control of the contr	y "Yes" above. above, if any, ia Health & Safety apter 11, Article 4.  CFR 171.8, 1910.1200 and /312/313. es)  None ND		
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ACGIH except as noted California criteria: Constitutave been neutralized or Code Ch 6.95 Sec 25501 Emergency overview: Hazard Categories: Immediate Delayed HMIS Hazard ratings: NFPA 704 Hazard Ratings: Lea Threshold limit value: TOSCA Status: All ing California Prop. 65: Reproductive implication Appearance: Odor: Specific gravity: pH reaction: % phosphorous:	above. Components uents qualifying as h denatured to a non i (k) & (l), CCR Title 2 Neutral cle Use stand Health Fi Yes No Health 1 Fire tings: Health 1 i ist: 0 Slight: 1 Not established of predients listed None ons: None SECTION 4 P Viscous, clear, g Floral >1 Neutral	s listed in TITLE III S lazardous materials, hazardous condition. 22, Sec 66261.212 leaner lard industrial good re Pressure No No XXX XXX  O Instability Flammability O Moderate: 2 lon product.  CEF lingredient  HYSICAL AND C green liquid	EC 313 (EPCF substances or Regulations re 4, and Append d practices. Reactivity No XXX O Other E Reactivity High: 3 E: Scan cancer  HEMICAL PI Flash point initial boilin Vapor pres Freezing p	RA) are indicated by waste, other than a eferenced: California X of 22 CCR Charles Cosha 29 CFR SARA 302/311 (Glasses, glove O Special NA extreme: 4 (Cosha None)  ROPERTIES (Cosha Point deg. Cosha 20 deg Cosha	y "Yes" above. above, if any, ia Health & Safety apter 11, Article 4.  CFR 171.8, 1910.1200 and //312/313. es)  None ND ND ND		

					5-SAFE HANDLING AND STORAGE			
General				tral cle				
<del>-</del> ,			Use	standa	ard industrial good practices.			
	<u> </u>	· · · ·		т				
Protective								
Eyes	Safety glasses or goggles should be worn if there is possibility of eye contact.							
Skin	Impermeable gloves such as rubber, PVC or neoprene are recommended.							
Respirator	ry prote				e normally required. If risk of inhalation occurs, select and			
V	<del> ,</del>				ording to OSHA/NIOSH guidelines for nuisance mists.			
Ventilation Other	None		ii venusatei	1 WOLK	environment is recommended.			
Other	None	<b>;</b> 457,80 pi	e Ees	DALC.	- HEALTH SAFETY DATA			
F#1	•	<u> </u>	ting and the second control of the second	and the same of the same				
	acute		ronic over		hronic effects known.			
Eyes					om repeated exposure.			
Skin Inhalation					to breathing passages.			
Ingestion					chronic exposure			
Illyestion		IIOI E	r likely soul	00 01 0	ALL OLIVO CYPACH MANY MANY MANY MANY MANY MANY MANY MANY			
	5	ECT	ION 7 - PH	YSICA	L STABILITY AND REACTIVITY DATA			
Expl	losive I	imits			Flash point: See Sec 4			
Upper No	ne	Lowe	er None	3	Conditions to avoid: None known			
Chemical		Stabl	e		Hazardous decomposition products:			
stability					None known			
Hazardous	S		·		Incompatibility: None known			
polymen	ization		Cannot or					
				MERG	SENCY RESPONSE PROCEDURES			
Fire			ng media		Use equipment appropriate to the main cause of the fire.			
·	Speci	al pro	ocedures		None			
					<i>i</i>			
	Unusual hazards None							
First Aid		Eyes Flush with water for at least 15 min. Seek medical attention. See Sec. 6.						
	Skin				skin with soap and water until gone. Remove affected			
	labala	clothes rinse off product and wash clothes before reuse.  Inhalation If affected, remove individual to fresh air, get medical attention at						
	IIIIIaia	HIOH			· · · · · · · · · · · · · · · · · · ·			
}	once if there is any discomfort.  Ingestion Dilute by giving large amounts of milk or water. Get medical							
المناج المستحدة	inges	uon			mmediately. Do not induce vomiting.			
Spills	Small / large spill   Small amounts may be flushed to drain. Comply with federal,							
]	***			_	e and local regulations on reporting spills.			
	İ				o out of waterways and storm sewers.			
				•				
Product	as ma	de do	es not qua	lify as	an "Unlisted Hazardous Waste" for disposal situations.			
1.1.5								

Product as made does not qualify as an "Unlisted Hazardous Waste" for disposal situations.

Information presented herein has been compiled from sources considered to be accurate and reliable, but is not guaranteed to be so. Since conditions of use are beyond our control we make no warranties, expressed or implied.

MSDS prepared by: R.N. Miller 1-800-342-3577





- Effective neutralization of residual alkalinity Non-phosphated
- Prevents yellowing of fabric Use on all types of fabric
- Use in all commercial stainless steel washing machines

  Designed to be dispensed directly into the laundry machine
  by a Diversey dispenser
- Dispensed at various rates depending on water conditions and equipment

### Designed For

- : Health Care
- Lodging

# **Use Overview**

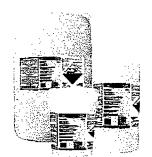
**CLAX®** Launch® 6GL2 Liquid Laundry Sour is a specifically formulated for use in commercial and on-premise laundries. This product should be applied in the last rinse to neutralize residual alkalinity. For use on all types of fabric. CFIA approved.

### **Commercial Machines**

Dispense automatically with Diversey dispenser.

### Food Plant Use

- Thoroughly rinse all laundered fabrics used in food plants with potable water before re-use.
- Avoid contamination of food during use or storage.



### **Product Specifications**

Description	
Color/Form	Colorless liquid
Flash Point	>200° F (> 93.3° C)
pH	2.0
Scent	No fragrance added
Shelf Life	2 years
Solubility	Complete
Specific Gravity	1.1

# **Hazard Rating**

HMIS		NFPA
3	Health	3
0	Flammability	0
0	Reactivity	0

4=Very High; 3=High; 2=Moderate; 1=Slight; 0=Insignificant.

### **Specific Applications**

Description	Recommended
Commercial Washers	Yes
Homestyle Washers	No
Tunnel Washers	Yes
Use with Ozone	Yes
Low Temperature Wash	Yes
Safe on Microfibers	No

### **Available Items**

Product Code	Description/Package Size	Dilution
5150690	1 x 5 gal. / 18.9 L Container	Auto Dosed – 1–3 fl. oz. (30–90 mL) / 100 lbs.
5150702	1 x 15 gal. / 56.8 L Pail	Auto Dosed – 1–3 fl. oz. (30–90 mL) / 100 lbs.
5150711	1 x 55 gal. / 208 L Drum	Auto Dosed – 1–3 fl. oz. (30–90 mL) / 100 lbs.

### **Safety Reminder**

Please make sure your employees read and understand the product label and Material Safety Data Sheet before using this product. The label contains directions for use, and both the label and MSDS contain hazard warnings, precautionary statements and first aid procedures. MSDS are available on-line at www.diversey.com or by calling 888 352 2249.







Preparation date: 2010-10-28

### Launch

HMIS	s	NFPA	Personal protective equipment
Health	3	3	Nih Company
Fire Hazard	0	0	
Reactivity	0	0	

1. PRODUCT AND COMPANY IDENTIFICATION

Product name:

Version Number: 4

Launch

MSDS #:

F-00575001

Product Code:

5150690, 5150702, 5150711, 5150729

Recommended use:

Laundry care.

Manufacturer, importer, supplier:

**US Headquarters** Diversey, Inc. 8310 16th St.

Sturtevant, Wisconsin 53177-1964

Phone: 1-886-352-2249

MSDS Internet Address: www.diversey.com

Emergency telephone number:

1-800-851-7145 (U.S.); 1-651-917-6133 (Int'l)

Canadian Headquarters Diversey, Inc. - Canada, Inc. 2401 Bristol Circle Oakville, Ontario L6H 6P1 Phone: 1-800-668-3131

### 2. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

DANGER. CORROSIVE. CAUSES SEVERE EYE, SKIN AND DIGESTIVE TRACT BURNS. Burns may not be immediately obvious or painful. HARMFUL IF INHALED, SWALLOWED OR ABSORBED THROUGH SKIN. FIRST AID: Responders should put on appropriate personal protective equipment (goggles & gloves) to protect themselves before assisting victims. Can cause hypocalcemia resulting in possibly fatal, delayed ventricular fibrillation.

Principal routes of exposure:

Eye contact:

Skin contact: Inhalation:

ingestion:

Eye contact. Inhalation. Ingestion. Skin contact.

Corrosive. Causes permanent eye damage, including blindness.

Corrosive. May cause permanent damage. Burns or irritation resulting from skin contact may be

delayed and not immediately apparent. Harmful if absorbed through skin.

May cause irritation and corrosive effects to nose, throat and respiratory tract. Harmful if inhaled.

Contains fluoride compounds . Ingestion of large amounts may cause fluoride toxicity . Can cause hypocalcemia resulting in possibly fatal, delayed ventricular fibrillation. If ingested, fluoride containing compounds may disrupt the body's electrolyte balance by binding essential metal ions such as magnesium and calcium (hypocalcemia) which may disrupt normal heart and nervous system functions. Disruptions to the body's potassium balance (hyperkalemia) may also occur. Effects may appear immediately or be delayed as much as 4 hours after exposure. Death usually results from uncontrollable ventricular fibrillation. Intravenous calcium chloride or gluconate may be indicated to prevent hypocalcemia. Consultation with a medical toxicologist is advised.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient(s)	CAS#	Weight %	LD50 Oral - Rat (mg/kg)	LD50 Dermal - Rabbit	LC50 Inhalation - Rat
Fluorosilicic acid	16961-83-4	10 - 20%	125	Not available	1.11 mg/L (1 h)

### 4. FIRST AID MEASURES

Eye contact:

Immediately flush eyes for 15 minutes with flowing water. Take the victim to a hospital as soon as possible. If possible, apply ice water compresses during transport.

Launch

Skin contact: Responders should put on appropriate personal protective equipment to protect themselves before

assisting victims. Immediately remove all contaminated clothing. Immediately flush the affected area for five minutes with large amounts of water. While the victim is being rinsed with water, have someone call to arrange medical treatment. If the exposure is to the eyes face, groin, or covers a large area, call 911. For smaller exposure, (i.e. A few drops on the skin), call a physician or poison control center. Immediately after flushing with water start massaging 2.5% calcium gluconate gel into the burn site. Responders must wear gloves when applying the gel to prevent secondary HF burns to their hands. Apply the gel every 15 minutes and massage until pain/redness ceases or professional medical care is

Inhalation: Immediately move the victim to fresh air. Call 911. Inhalation of HF furnes may cause swelling in the

respiratory tract up to 24 hours after exposure. Persons who have inhaled HF fumes may need

prophylactic oxygen treatment and should be seen by a physician as soon as possible.

If swallowed, give a cupful of water or milk. THEN IMMEDIATELY CONTACT A PHYSICIAN OR POISON CENTER. DO NOT induce vomiting unless directed to do so by medical personnel. Never

give anything by mouth to an unconscious person.

Notes to physician: Treat symptomatically.

Aggravated Medical Conditions: Persons with pre-existing skin disorders may be more susceptable to imitating effects

### 5 FIRE-FIGHTING MEASURES

Suitable extinguishing media:

The product is not flammable. Use dry chemical, CO2, water spray or "alcohol" foam.

Specific hazards: Unusual hazards:

Thermal decomposition can lead to release of irritating gases and vapors. Corrosive material (See sections 8 and 10).

Specific methods:

ingestion:

No special methods required.

Autoignition temperature:

No information available.

Special protective equipment for firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

Extinguishing media which must not be used for safety reasons: No information available

### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Put on appropriate personal protective equipment (see Section 8.).

**Environmental precautions** and clean-up methods:

Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Sweep up and shovel into suitable containers for disposal. Use a water rinse for final clean-up.

### 7. HANDLING AND STORAGE

Handling:

Avoid contact with skin, eyes and clothing. Do not taste or swallow. Avoid breathing vapors or mists. Use only with adequate ventilation. Remove and wash contaminated clothing before re-use. Wash thoroughly after handling. Product residue may remain on/in empty containers. All precautions for handling the product must be used in handling the empty container and residue. Mix only with water . DO NOT MIX WITH BLEACH OR ANY OTHER PRODUCT OR CHEMICAL. Can react to release chlorine gas, FOR COMMERCIAL AND INDUSTRIAL USE ONLY, FOR COMMERICAL AND INDUSTRIAL USE ONLY.

Storage:

Protect from freezing. Keep tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children.

### 8 EXPOSURE CONTROLS PERSONAL PROTECTION

Engineering measures to reduce exposure:

Respiratory protection is not required if good ventilation is maintained.

Personal Protective Equipment

Eye protection:

Chemical-splash goggles.

Hand protection:

Chemical-resistant gloves Includes rubber gloves

Skin and body protection:

Chemical resistant apron. Protective footwear.

Respiratory protection:

In case of insufficient ventilation wear suitable respiratory equipment. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever

workplace conditions warrant a respirator's use.

Hygiene measures:

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink

and animal feeding stuffs. Avoid contact with skin, eyes and clothing.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid Appearance: Aqueous solution

Specific gravity: 1.1

Vapor density: No information available Boiling point/range: Not determined

Decomposition temperature: Not determined

Solubility: Completely Soluble

Solubility in other solvents: No information available

Partition coefficient (n-octanol/water): No information available

Elemental Phosphorus: 0 % by wt.

pH: 2.0

Explosion limits: - upper: Not determined - lower: Not determined

Bulk density: No information available Evaporation Rate No information available

Color: Clear Colorless Odor: No Odor/Odorless

Melting point/range: Not determined

Autolgnition temperature: No information available

Density: 9.17 lbs/gal 1.1 Kg/L Flash point: > 200 °F > 93.4 °C Viscosity:No information available

VOC: 0 %

Dilution pH: 2.4 @ 1:100

\* - Title 17, California Code of Regulations, Division 3, Chapter 1, Subchapter 8.5, Article 2, Consumer Products, Sections 94508

### 10. STABILITY AND REACTIVITY

Stability:

Polymerization:

Stable

Hazardous polymerization does not occur.

Hazardous decomposition products:

Hydrogen fluoride .

Materials to avoid:

Ammonia. Strong oxidising agents. Do not mix with chlorinated products.

Conditions to avoid:

Component Information:

No special storage conditions required.

### 41. TOXICOLOGICAL INFORMATION

Acute toxicity:

Corrosive. Oral LD50 estimated to be between 500 - 2000 mg/kg. Dermal LD50 estimated to be > 2000

mg/kg

See Section 3

Chronic toxicity:

Repeated exposure to low levels of fluoride through ingestion, inhalation, [or dermal absorption- if posing a skin absorption hazard] can cause fluorosis. The primary target is the skeletal system. Effects can include osteoporosis, increased bone density, mottled tooth enamel, and calcification of

ligaments

Specific effects

Carcinogenic effects:

No information available

Mutagenic effects:

None known None known

Reproductive toxicity: Target organ effects:

Hydrofluoric Acid (HF) readily penetrates skin, allowing it to destroy soft tissues and decalcify bone. Acute effects of exposure to concentrated (>5%) HF include severe pain, respiratory irritation, severe eye damage, and pulmonary edema. Exposure to less concentrated solutions may have equally serious but delayed effects. Even though HF is chemically defined as a "weak" acid it has a considerable ability to cause severe tissue damage and death. A splash of HF to more than 25% of the body can be fatal and requires immediate medical attention. Death has been reported from contact with strong HF solutions (>50%) to as little as 10% of the body's surface area HF spills contacting the

eyes, face, groin and large surface areas of the body require immediate medical attention.

### 12 ECOLOGICAL INFORMATION

**Environmental Information:** 

No data available.

### 13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products:

Undiluted product is regulated under environmental and transportation laws as a corrosive waste. Dispose of in compliance with all Federal, state, provincial, and local laws and regulations.

RCRA Hazard Class: D002

### 14. TRANSPORT INFORMATION

DOT/TDG/IMDG: Please refer to the Diversey HazMat Library, http://naextranet.diversey.com/dot/, for up to date shipping information.

DOT Bill of Lading Description:

UN3264, CORROSIVE, LIQUID, ACIDIC, INORGANIC, N.O.S, (FLUOROSILICIC ACID), 8, III

IMDG Bill of Lading Description:

Same as DOT above.

### 15. REGULATORY INFORMATION

International Inventories at CAS# Level

All components of this product are listed on the following inventories: Canada (DSL/NDSL), U.S.A. (TSCA).

U.S. Regulations

California Proposition 65: This product is not subject to the reporting requirements under California's Proposition 65

RIGHT TO KNOW (RTK)

Ingredient(s)	CAS#	MARTK:	NJRTK:	PARTK:	RIRTK:
Water	7732-18-5	-	-	-	-
Fluorosilicic acid	16961-83-4	X	Х	-	-

### **CERCLA/ SARA**

None

SARA 311/312 Hazard Categories

Immediate: X
Delayed: X
Fire: Reactivity: -

Sudden Release of Pressure:

Canada

WHMIS hazard class: D1B Toxic materials, E Corrosive material.



### 16 OTHER INFORMATION

Reason for revision:

Not applicable NAPRAC None

Prepared by: Additional advice:

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